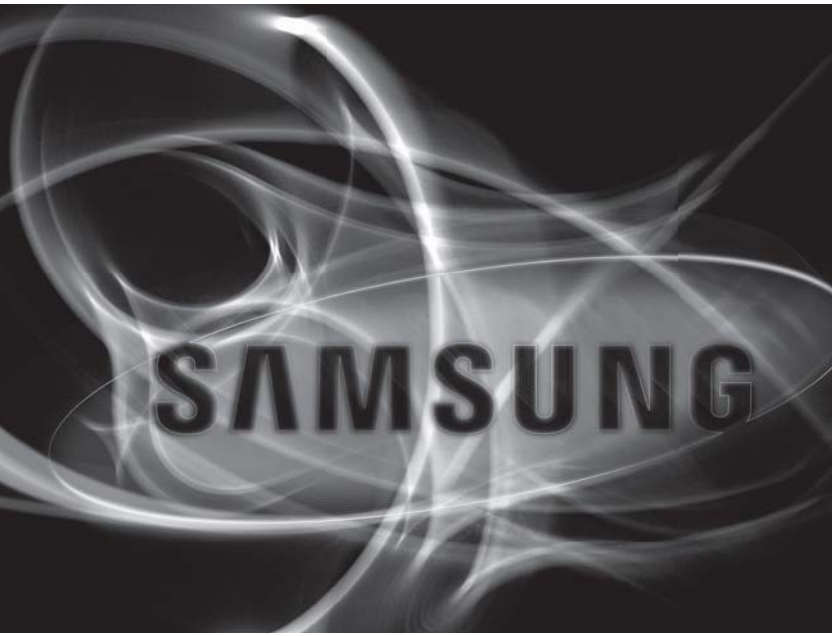
SAMSUNG TECHWIN

NETWORK ENCODER

User Manual

SPE-400



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SAMSUNG

Network Encoder
User Manual

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Warranty

If the product does not operate properly in normal conditions, please let us know. Samsung Techwin will resolve the problem for free of charge. The warranty period is 3 years. However, the followings are excluded:

- If the system behaves abnormally because you run a program irrelevant to the system operation.
- Deteriorated performance or natural worn-out in process of time

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety, If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

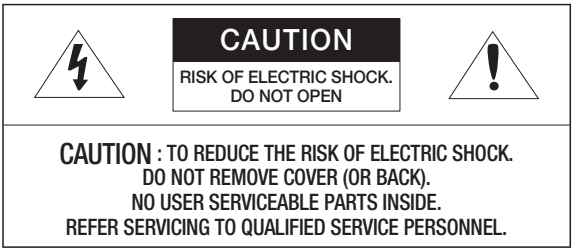
13. Unplug this apparatus during lighting storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PROCUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENNINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

CAUTION


CAUTION
RISK OF ELECTRIC SHOCK.
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.
It is essential that when changing the battery in the unit, the replacement battery must be of the same type otherwise there may be a possibility of an explosion.

CALIFORNIA USA ONLY

This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA. “Perchlorate Material - special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate.”

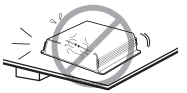
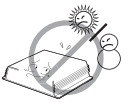
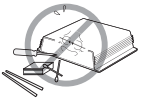
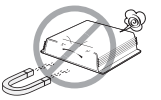
CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Please use the input power with just one camera and other devices must not be connected.

overview

Please read the following recommend safety precautions carefully.

Do not Place this apparatus on an uneven surface. 	Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area. 
Do not place this apparatus near conductive material. 	Do not attempt to service this apparatus yourself.
Do not place a glass of water on the product. 	Do not install near any magnetic sources. 
Do not block any ventilation openings. 	Do not place heavy items on the product.

User's Manual is a guidance book how to use the products

The meaning of the using sign in the book is following

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

※ Please read this manual for the safety before using of goods and keep it in the safe place.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Samsung Techwin cares for the environment at all product manufacturing stages, and is taking measures to provide customers with more environmentally friendly products.
The Eco mark represents Samsung Techwin's devotion to creating environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

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PRODUCT FEATURES

- **Multi-Streaming**
  This network camera can display videos in different resolutions and qualities simultaneously using different CODECs.

  ▪ However, MPEG-4 video can not be played on a web page. Use CMS software if you want to play the video on a web page.

- **Support various communication protocols**
- **Web Browser-based Monitoring**
  Using the Internet web browser to display the image in a local network environment.
- **Alarm**
  If an event occurs, the event-related video will be transferred to the Email specified by the user or saved to the SD memory, or the event signal will be sent to the Alarm Out port.
- **ONVIF (Spec 1.01) Compliance**
  This product supports ONVIF Core Spec. 1. 01.
  For more information, refer to www.onvif.org.

ONVIF
Driving network video through global standardization

RECOMENDED PC SPECIFICATIONS

- CPU : Intel(R) Core(TM)2 2.00 GHz or higher
- Operating System : Windows XP, VISTA, 7
  Mac OS
- Resolution : 1280X1024 pixels or higher
- RAM : 1GB or higher
- Web Browser : Internet Explorer 6.0 or higher
  Firefox, Google Chrome, Safari
- Video Memory : 128MB or higher

RECOMENDED SDHC/SD MEMORY CARD SPECIFICATIONS

- 2GB ~ 32GB
- To ensure proper recording of video data, we recommend you use a memory card that supports at least read/write speed 10Mbps and Class 6.
- For your network encoder, we recommend you use a memory card from the following manufacturers:
  SDHC/SD Memory Card : Sandisk, Transcend

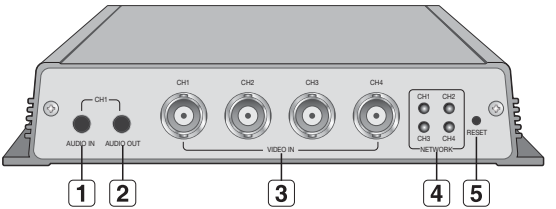
WHAT'S INCLUDED

Please check if your network encoder and accessories are all included in the product package.

Appearance	Item Name	Quantity	Description
	User Manual, Installer S/W CD	1	
	CMS S/W CD	1	
	Quick Guide	1	
	ASSY-Tapping Screw	4	Used for installation on the wall or ceiling

AT A GLANCE

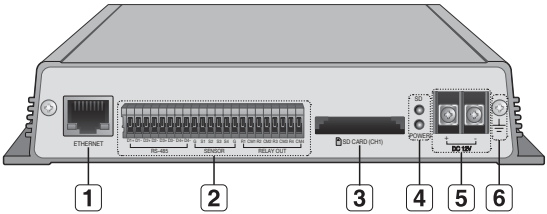
Front Side



Item	Description
1 AUDIO IN	Audio input terminal which brings sound to the network encoder. Used to connect the microphone.
2 AUDIO OUT	Audio output terminal which outputs sound from the network encoder. Used to connect the speaker.
3 VIDEO IN (CH 1~CH 4)	Used to connect the BNC video input signal.
4 Network connection indicator (CH 1~CH 4)	Display the network connection status for each channel.
5 Reset Button	Resets the network encoder settings to the default. Press and hold it for about 5 seconds to turn off the system indicator and restart the system. ! If you reset the network encoder, the network settings will be adjusted so that DHCP can be enabled. If there is no DHCP server in the network, you must run the IP Installer program to change the basic network settings such as IP address, Subnet mask, Gateway, etc., before you can connect to the network. ■ For more information on IP settings, refer to "**Network Setup**".(page 47)

■ Audio I/O can be performed only in channel 1.

Rear Side



Item		Description	
1	Network Port	Used to connect a LAN cable.	
2	I/O Port	D+ (1~4)	RS-485 Data Line
		D- (1~4)	RS-485 Data Line
		S1~S4	Alarm In
		G	GND
		R1~R4	Alarm Relay Output
		CM1~CM4	Alarm Out (Common)
3	SD Memory Card Compartment	Compartment for the SD memory card.	

Item		Description	
4 Power, SD Indicators	SD		ON : A memory card is inserted and operates normally. Flashing : Failed to record, insufficient space, or inserted abnormally. OFF : Network encoder is off, network encoder is restarting, or memory card is not in place. When record is off.
	POWER		ON : While the power is on. OFF : If the power is off.
5 Power Port	Used to connect the specified power source.		
6 GND	Used for earth-grounding.		

■ The SD memory can be performed only in channel 1.

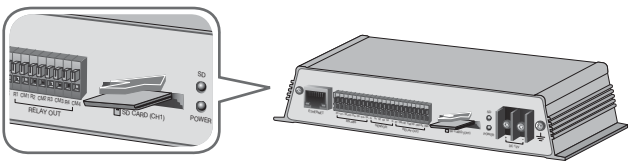
Channel I/O port table

	RS-485	SENSOR	RELAY OUT		RS-485	SENSOR	RELAY OUT
CH 1	D1+, D1-	S1, G	R1, CM1	CH 3	D3+, D3-	S3, G	R3, CM3
CH 2	D2+, D2-	S2, G	R2, CM2	CH 4	D4+, D4-	S4, G	R4, CM4

INSERTING/REMOVING AN SD MEMORY CARD

Inserting an SD Memory Card

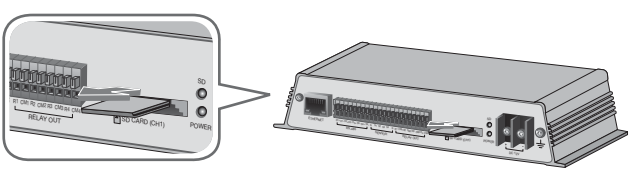
Push the SD memory card in the direction of the arrow shown in the diagram.



- Do not insert the SD memory card while it's upside down by force. Otherwise, it may damage the SD memory card.

Removing an SD Memory Card

Gently press down on the exposed end of the memory card as shown in the diagram to eject the memory card from the slot.



- Pressing too hard on the SD memory card can cause the card to shoot out uncontrollably from the slot when released.
- To remove the SD memory card, set <**Record**> to <**Off**> from <**SD record**> and press [**Apply** (✓)]. (page 53)
- If you have saved data in the SD memory card, removing the SD memory card prior to setting record to OFF will cause damage to the data stored in the card.
- If the SD memory is inserted and when record is on, the SD LED indicator on the rear of the network encoder will turn on.
- If there occurs a problem in the SD memory, the SD LED indicator will blink.

MEMORY CARD INFORMATION (NOT INCLUDED)

What is a memory card?

The memory card is an external data storage device that has been developed to offer an entirely new way to record and share video, audio, and text data using digital devices.

Selecting a memory card that's suitable for you

Your network encoder supports SDHC memory cards.
You may, however, experience compatibility issues depending on the model and make of the memory card.

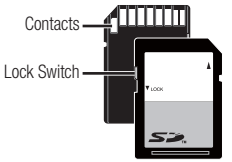
For your network encoder, we recommend you use a memory card from the following manufacturers:
SDHC/SD Memory Card : Sandisk, Transcend

Playback performance can be affected depending on the speed of memory card, so use the high-speed memory card.

Memory Card Use

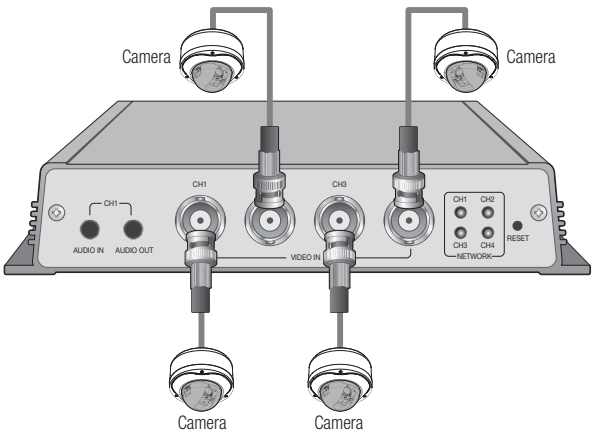
SD and SDHC memory cards feature a switch that disables writing data on to the media. Having this switch to the Lock position will prevent accidental deletion of data stored in the memory card but at the same time will also prevent you from writing data on to the media.

❖ Memory Card Components



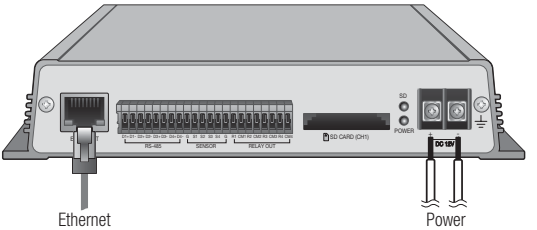
SD/SDHC

CONNECTING WITH OTHER DEVICE



Connecting the camera

Connect the [**VIDEO IN**] port of the network encoder to the video output port of the camera.



Ethernet Connection

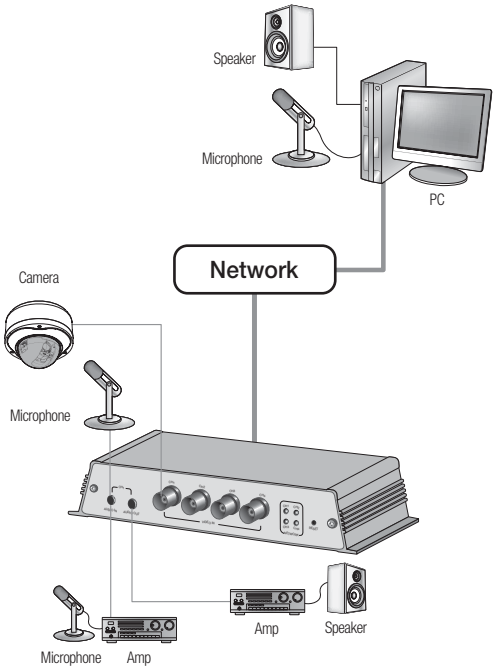
Connect the Ethernet cable to the local network or to the Internet.

Power Supply

Use the screwdriver to connect each line (+, –) of the power cable to the corresponding power port of the network encoder.

- Be careful not to reverse the polarity when you connect the power cable.

Connecting to Audio Input/Output

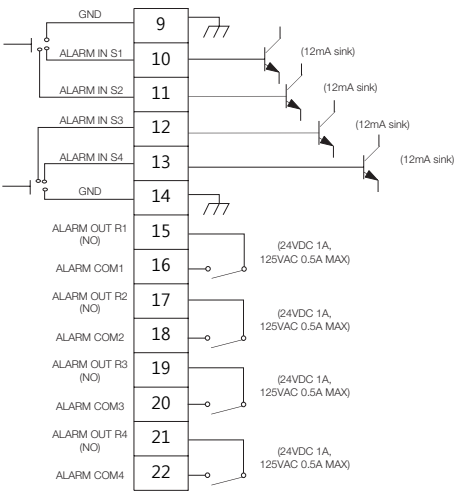


1. Connect the AUDIO IN port of the network encoder with the microphone directly or LINE OUT port of the amplifier that the microphone is connected to.
2. Connect the AUDIO OUT port of the network encoder with the LINE IN port of the speaker.
3. Check the specifications for audio input.

▪ Audio I/O can be performed only in channel 1.

- **Audio Codec**
  G.711 PCM. μ-law 64kbps 8kHz sampling
- **Full duplex Audio**
- **Audio in**
  Used for mono signal line input (Max.2.4 Vpp)
- **Audio out**
  Used for mono signal line output (Max.2.4 Vpp)
- **Line out impedance**
  600Ω

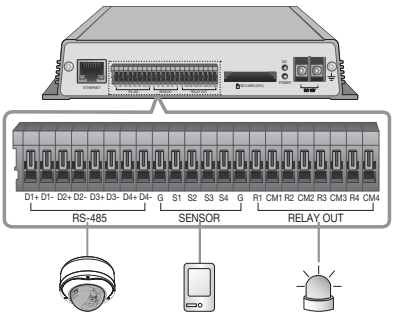
Alarm I/O Wiring Diagram



- For controlling the power with electrical contacts, a separate circuit is required.

Connecting to the I/O port box

Connect the Alarm I/O signal to the corresponding port of the rear port box.



Port	Description	Port	Description
D+(1~4)	RS-485 Data Line	**R1~R4**	Alarm Relay Output
D-(1~4)	RS-485 Data Line	**CM1~CM4**	Alarm Out (Common)
S1~S4	Alarm In	**G**	GND

Connecting to the RS-485 device

Connect the external device to the [**RS-485 D+, D-**] ports.

You can connect and control PTZ camera that supports RS-485 communication.

- Depending on camera's type, connection polarity can be different.
  For further information, refer to the corresponding PTZ Camera's documentation.

Connecting to the Alarm Input

Connect one signal cable (out of 2) of applicable sensor to the [**S1**] port, and the other to the [**G**] port.

Connecting the Alarm Output

Connect one signal cable (out of 2) of applicable external device to the [**RELAY OUT**], and the other to the [**CM**] port.

- You must use the specific RS-485 alarm I/O ports for each channel.

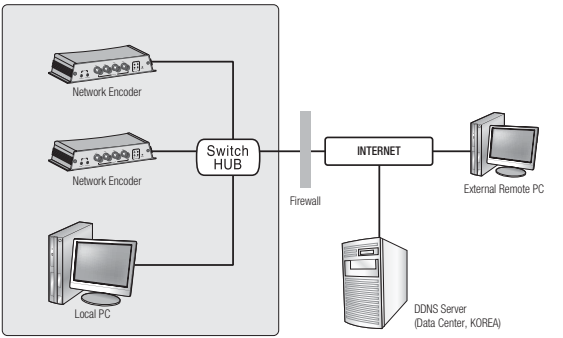
network connection and setup

You can set up the network settings according to your network configurations.

CONNECTING THE NETWORK ENCODER DIRECTLY TO LOCAL AREA NETWORKING

Connecting to the network encoder from a local PC in the LAN

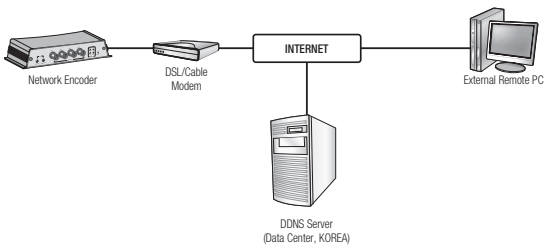
1. Launch an Internet browser on the local PC.
2. Enter the IP address of the network encoder in the address bar of the browser.



<Local Network>

- A remote PC in an external Internet out of the LAN network may not be able to connect to the network encoder installed in the intranet if the port-forwarding is not properly set or a firewall is set. In this case, to resolve the problem, contact your network administrator.
- By factory default, the IP address will be assigned from the DHCP server automatically. If there is no DHCP server available, the IP address will be set to 192.168.1.100~103(CH 1~CH 4). To change the IP address, use the IP Installer. For further details on IP Installer use, refer to "**Static IP Setup**". (Page 27)

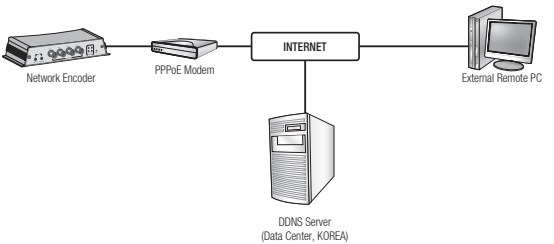
CONNECTING THE NETWORK ENCODER DIRECTLY TO A DHCP BASED DSL/CABLE MODEM



1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the network encoder so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the network encoder.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Network**] – [**Interface**], and set the network type to [**DHCP**].
7. Connect the network encoder, which was removed from your PC, directly to the modem.
8. Restart the network encoder.

- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 49)
- For configuring the DDNS settings, refer to "**DDNS**". (page 49)
- For setting the network type, refer to "**Interface**". (page 47)

CONNECTING THE NETWORK ENCODER DIRECTLY TO A PPPoE MODEM

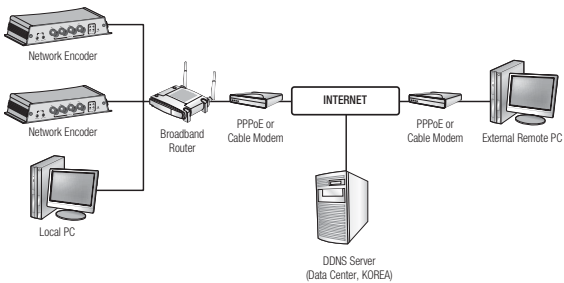


1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the network encoder so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the network encoder.
4. Move to [**Setup**] page.
5. Move to [**Network**] – [**DDNS**] and configure the DDNS settings.
6. Move to [**Network**] – [**Interface**], and set the network type to [**PPPoE**].
7. Connect the network encoder, which was removed from your PC, directly to the modem.
8. Restart the network encoder.

- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 49)
- For configuring the DDNS settings, refer to "**DDNS**". (page 49)
- For setting the network type, refer to "**Interface**". (page 47)

CONNECTING THE NETWORK ENCODER TO A BROADBAND ROUTER WITH THE PPPoE/CABLE MODEM

This is for a small network environment such as homes, SOHO and ordinary shops.



Configuring the network settings of the local PC connected to a Broadband Router

Configuring the network settings of the local PC connected to a Broadband Router, follow the instructions below.

- Select : <**Network Neighborhood**> → <**Properties**> → <**Local Area Connection**> → <**Properties**> → <**General**> → <**Internet Protocol (TCP/IP)**> → <**Properties**> → <**Obtain an IP address automatically**> or <**Use the following IP address**>.
- Follow the instructions below if you select <**Use the following IP address**>:

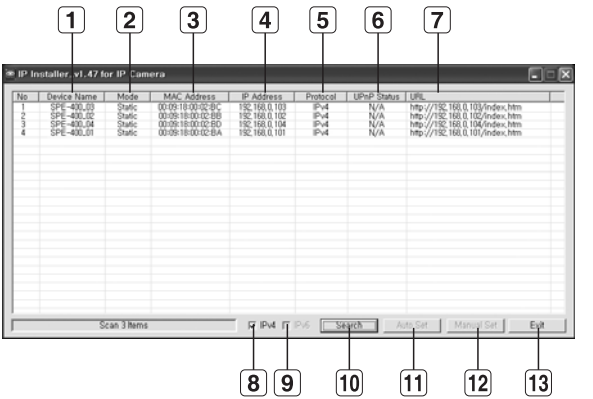
ex1) If the address (LAN IP) of the Broadband Router is 192.168.1.1
IP address : 192.168.1.100
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.1.1

ex2) If the address (LAN IP) of the Broadband Router is 192.168.0.1
IP address : 192.168.0.100
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.0.1

ex3) If the address (LAN IP) of the Broadband Router is 192.168.xxx.1
IP address : 192.168.xxx.100
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.xxx.1

- For the address of the Broadband Router, refer to the product's documentation.
- Refer to the "**Port Range Forward (Port Mapping) Setup**" section of the Broadband Router's documentation. (Page 31)

BUTTONS USED IN IP INSTALLER



Item	Description
1 **Device Name**	Model name of the connected network encoder. Click the column to sort the list by model name. However, search will be stopped if clicked during the search.
2 **Mode**	Displays either <**Static**> or <**Dynamic**> for the current network connection status.
3 **MAC(Ethernet) Address**	Ethernet address for the connected network encoder. Click the column to sort the list by Ethernet address. However, search will be stopped if clicked during the search.
4 **IP Address**	IP address. Click the column to sort the list by IP address. However, search will be stopped if clicked during the search. The factory default is "**192.168.1.100~103**".
5 **Protocol**	Network setting for the network encoder. The factory default is "IPv4". Network encoders with the IPv6 setting will be displayed "IPv6".
6 **UPnP Status**	This function is not currently implemented.

Item	Description
7 URL	DDNS URL address enabling access from the external Internet. However, this will be replaced with the <**IP Address**> of the network encoder if DDNS registration has failed.
8 IPv4	Scans for network encoders with the IPv4 setting.
9 IPv6	Scans for network encoders with the IPv6 setting. Activated in an IPv6 compliant environment.
10 Search	Scans for network encoders that are currently connected to the network. However, this button will be grayed out if neither IPv4 nor IPv6 is checked.
11 Auto Set	The IP Installer automatically configures the network settings.
12 Manual Set	You should configure the network settings manually.
13 Exit	Exits the IP Installer program.

- For the IP installer, use only the installer version provided in the installation CD or use the latest one if available. You can download the latest version from the product website.

STATIC IP SETUP

Manual Network Setup

Run <**IP Installer_vX.XX.exe**> to display the network encoder search list.
At the initial startup, both [**Auto Set**] and [**Manual Set**] will be grayed out.

- For network encoders found with the IPv6 setting, these buttons will be grayed out as the network encoders do not support this function.

1. Select a network encoder in the search list.
   Find the MAC (Ethernet) address labeled on the rear of the network encoder.
   Both the [**Auto Set**] and [**Manual Set**] buttons will be activated.
2. Click [**Manual Set**].
   The Manual Setting dialog appears.
   The default values of <**IP Address**>, <**Subnet Mask**>, <**Gateway**>, <**HTTP Port**> and <**VNP Port**> of the network encoder will be displayed.

3. In the <**Address**> pane, provide the necessary information.
   - MAC (Ethernet) Address : The MAC (Ethernet) address of the applicable network encoder will be set automatically so you don't need to input it manually.

If using a Broadband Router

- IP Address : Enter an address falling in the IP range provided by the Broadband Router.
  ex) 192.168.1.2~254,
  192.168.0.2~254,
  192.168.XXX.2~254
- Subnet Mask : The <**Subnet Mask**> of the Broadband Router will be the <**Subnet Mask**> of the network encoder.

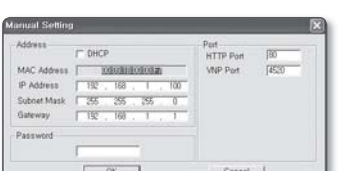
- Gateway : The <**Local IP Address**> of the Broadband Router will be the <**Gateway**> of the network encoder.

- The settings may differ depending on the connected Broadband Router model. For more information, refer to the user manual of the applicable router.
- Refer to the "**Port Range Forward (Port Mapping) Setup**" section of the Broadband Router's documentation. (Page 31)

If not using a Broadband Router

For setting <**IP Address**>, <**Subnet Mask**>, and <**Gateway**>, contact your network administrator.

4. In the <**Port**> pane, provide necessary information.
   - HTTP Port : Used to access the network encoder using the Internet browser, defaulted to 80. Use the spin button to change the HTTP Port value.
   - VNP Port : Used to control the video signal transfer, defaulted to 4520.



5. Enter the password.
   This is the login password for the "**admin**" user who accesses the network encoder. The default password is "**4321**".

6. Click [**OK**].
   Manual network setup will be completed.
7. When the manual setup including IP is completed, the network encoder will restart.

If the Broadband Router has more than one network encoder connected

Configure the IP related settings and the Port related settings distinctly with each other.

Category		CH 1	CH 2	CH 3	CH 4
IP related settings	IP Address Subnet Mask Gateway	192.168.1.100 255.255.255.0 192.168.1.1	192.168.1.101 255.255.255.0 192.168.1.1	192.168.1.102 255.255.255.0 192.168.1.1	192.168.1.103 255.255.255.0 192.168.1.1
Port related settings	HTTP Port VNP Port	8080 4520	8081 4521	8082 4522	8083 4523

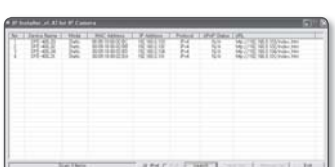
- If the <**HTTP Port**> is set other than 80, you must provide the <**Port**> number in the address bar of the Internet browser before you can access the network encoder.
  ex) http://IP address : HTTP Port
  http://192.168.1.100:8080

Auto Network Setup

Run <**IP Installer_vX.XX.exe>** to display the network encoder search list.
At the initial startup, both [**Auto Set**] and [**Manual Set**] will be grayed out.

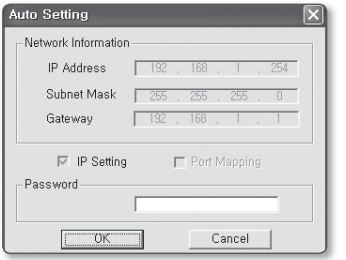
- For network encoders found with the IPv6 setting, these buttons will be grayed out as the network encoders do not support this function.

1. Select a network encoder in the search list.
   Find the MAC (Ethernet) address labeled on the rear of the network encoder.
   Both the [**Auto Set**] and [**Manual Set**] buttons will be activated.



2. Click [**Auto Set**].
   The Auto Setting dialog appears.
   The <**IP Address**>, <**Subnet Mask**>, and <**Gateway**> will be set automatically.

3. Enter the password.
   This is the login password for the "**admin**" user who accesses the network encoder. The default password is "**4321**".
4. Click [**OK**].
   Auto network setup will be completed.
5. The network encoder will automatically complete the network setting and restart.



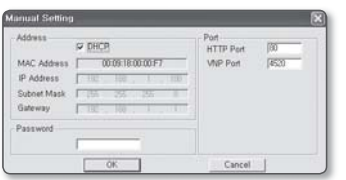
DYNAMIC IP SETUP

Dynamic IP Environment Setup

- Example of the Dynamic IP environment
  - If a Broadband Router, with network encoders connected, is assigned an IP address by the DHCP server
  - If connecting the network encoder directly to modem using the DHCP protocols
  - If IPs are assigned by the internal DHCP server via the LAN

Checking the Dynamic IP

1. Run the IP Installer on the user's local machine to display network encoders allocated with <**Dynamic IP**> addresses in the list.
2. Select a network encoder in the list, and click [**Manual Set**] to check the <**Dynamic IP**> of the network encoder. If you uncheck <**DHCP**>, you can change IP or <**Port**> to <**Static**>.

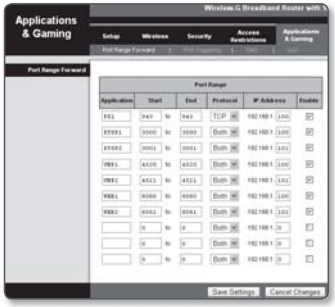


PORT RANGE FORWARD (PORT MAPPING) SETUP

If you have installed a Broadband Router with a network encoder connected, you must set the port range forwarding on the Broadband Router so that a remote PC can access the network encoder in it.

Manual Port Range Forwarding

1. From the Setup menu of the Broadband Router, select <**Applications & Gaming**> - <**Port Range Forward**>. For setting the port range forward for a third-party Broadband Router, refer to the user guide of that Broadband Router.
2. Select <**TCP**> and <**UDP Port**> for each connected network encoder to the Broadband Router.
   Each port number for the Broadband Router should match that specified in <**Network**> - <**Port**> from the network encoder's Setup menu.
3. When done, click [**Save Settings**].
   Your settings will be saved.



- Above sample instructions are based on the CISCO's Broadband Router (Model: LINKSYS).
- The settings may differ depending on the connected Broadband Router model.
  For more information, refer to the user manual of the applicable router.

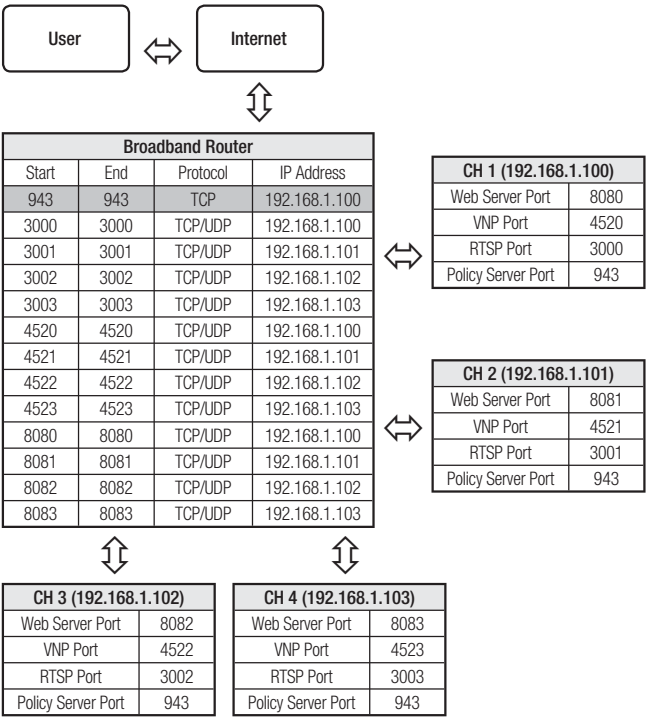
Port forwarding for the network encoder

If the network encoder (SPE-400) is connected to the router, you must set the port forwarding for any one channel of the network encoder (SPE-400) to port no. TCP 943.

- If you don't set properly the TCP 943 port of the router, you cannot get any video stream from the web page of the network encoder.

- TCP 943 port is a port for the Silverlight policy server of a network encoder.

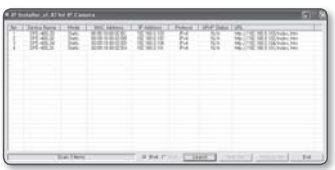
Ex) If the network encoder (SPE-400) is connected to the router



- You can set a rule of Port Forwarding on the Broadband Router device through its configuration web page.
- You cannot change the Silverlight policy server port of a network encoder.
- You can change the ports of the network encoder except the policy server port through its configuration web pages.

CONNECTING TO THE NETWORK ENCODER FROM A SHARED LOCAL PC

1. Run the IP Installer.
   It will scan for connected network encoders and display a list of them.
2. Double-click a network encoder to access.
   The Internet browser starts and connects to the network encoder.



■ Access to the network encoder can also be gained by typing the network encoder's IP address in the address bar of the Internet browser.

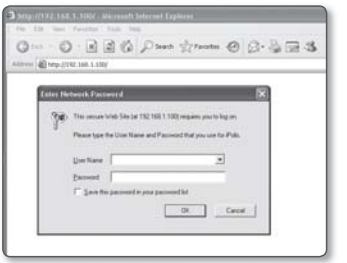
CONNECTING TO THE NETWORK ENCODER FROM A REMOTE PC VIA THE INTERNET

Since using the IP Installer on a remote computer that is not in the Broadband Router's network cluster is not allowed, users can access network encoders within a Broadband Router's network by using the network encoder's DDNS URL.

1. Before you can access a network encoder in the Broadband Router network, you should have set the port range forward for the Broadband Router.
2. From the remote PC, launch the Internet browser and type the DDNS URL address of the network encoder, or the IP address of the Broadband Router in the address bar.
   ex) http://www.samsungipolis.com/[Product ID]

CONNECTING TO THE NETWORK ENCODER

Normally, you would



1. Launch the Internet browser.
2. Type the IP address of the network encoder in the address bar.
   ex) • IP address (IPv4) : 192.168.1.100
   → http://192.168.1.100
   - the Login dialog should appear.
   • IP address (IPv6) : 2001:0230:abcd:ffff:0000:0000:ffff:1111
   → http://[2001:230:abcd:ffff:::ffff:1111]
   -the Login dialog should appear.

If the HTTP port is other than 80

1. Launch the Internet browser.
2. Type the IP address and HTTP port number of the network encoder in the address bar.
   ex) IP address : 192.168.1.100:HTTP Port number(8080)
   → http://192.168.1.100:8080
   - the Login dialog should appear.

Using URL

1. Launch the Internet browser.
2. Type the DDNS URL of the network encoder in the address bar.
   ex) URL address : http://www.samsungipolis.com/[Product ID]
   - the Login dialog should appear.

To check the DDNS address

If the network encoder is connected directly to the DHCP cable modem, DSL modem, or PPPoE modem, the IP address of your network will be changed each time you try to connect to the ISP (Internet Service Provider) server.
If this is the case, you will not be informed of the IP address changed by DDNS.

Once you register a dynamic IP-based device with the DDNS server, you can easily check the changed IP when you try to access the device.
To add the IP address to the <**DDNS**> server, visit www.samsungipolis.com and register your device, and set the DDNS option to <**Samsung DDNS**> before providing the user ID and password for the DDNS server.

LOGIN

The default user ID is "**admin**", and the default password is "**4321**".

1. Enter "**admin**" in the <**User Name**> input box.
2. Enter "**4321**" in the <**Password**> input box.
   If the password is changed, enter the changed password instead.
3. Click [**OK**].
   If you have logged in successfully, you will the Live Viewer screen.

Enter Network Password
This secure Web Site (at 192.168.1.100) requires you to log on.
Please type the User Name and Password that you use for iPolis.
User Name
Password
Save this password in your password list
OK
Cancel

- For security purposes, ensure that you change the password in <**System**> - <**User**>. The administrator ID, "**admin**", is fixed and can not be changed.
- If you check the "**Save this password in your password list**" option when your input is done, in future you will be logged in automatically without being prompted to enter the login information.

- If you are using Internet Explorer 7.0 or 8.0 as the default web browser, you can view the best quality image with a screen ratio of 100%. Reducing the ratio may cut the image on the borders.

web viewer

This network encoder uses Microsoft Silverlight for displaying the video.

INSTALLING SILVERLIGHT RUNTIME

If your PC has not installed Silverlight Runtime or has just installed an old runtime version, you will be redirected to the Silverlight Runtime installation page automatically when accessing the web viewer.

1. Click <**Click Here**>.

2. When the file download dialog pops up, click <**Run**>.

File Download - Security Warning
Do you want to run or save this file?
Name: Silverlight_Developer.exe
Type: Application, 7,63 MB
From: 192.168.1.100
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

3. When the download is completed, click <**Run**>.

Internet Explorer - Security Warning
Do you want to run this software?
Name: Microsoft Silverlight for Developers Installer
Publisher: Microsoft Corporation
More options
Run
Don't Run
While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

4. The Silverlight Runtime installation page will be displayed. <**Install now**> to proceed with the installation.

5. When done, click <**Close**>.

6. Close and restart the web browser, and try to access the Web Viewer.
When Silverlight Runtime is properly installed, you will see the Live screen.

- For normal installation, set the Block Popup setting as follows:
Internet Explorer → Tools → Block Popup → Always allow popups from the current site(A)
- However, MAC OS X users who are not connected to the Internet can use the provided installation CD to install Silverlight Runtime (Run the executable "Silverlight_xxx.dmg" in the CD. You will be guided through installation of the software).

USING THE LIVE SCREEN

Item	Description
1 **Monitoring**	Move to the monitoring screen.
2 **Playback**	Switch to the monitoring screen that plays recording data in the SD memory.
3 **Setup**	Move to the Setup screen.
4 **Viewer Screen**	Displays the Live video on the screen.
5 **Alarm Output**	Activate the Alarm Out port.
6 **Audio**	Display the audio Listen and Talk toggle button on the screen. (Only CH 1 activated)
7 **Hide the alarm indicator**	Hides the alarm indicator near the border of the viewer screen.
8 **Camera Menu**	Used to retrieve and customize connected camera's Setup menu. For selecting and saving each menu item, refer to "**Using the Camera Menu**". (page 39)

Item	Description
9 PTZ	You can control Pan/Tilt/Zoom of the cameras that are connected to the network encoder.
10 Digital PTZ	You can use the mouse wheel to activate the digital zooming.
11 Screen Optimization, Full Screen	Adjust the screen to the optimal size, and display the Full Screen icon on the Live screen.
12 Capture	Saves the snapshot as an image file in the .bmp format.
13 Video Format	You can select a profile type in <**Video profile**> under the <**Audio & Video**> setup menu. For IE 6.0 users, press the Browse button next to the <**Video profile**> dialog and select a profile type again if the selected profile is not played. If the "Invalid codec" message is displayed, select a profile type from the profile list again.

- If the temperature drops below the operational range, video signal may not be produced. In such cases, please wait for the video.

USING THE CAMERA MENU

Used to retrieve and customize the connected Camera Setup menu.

1. Launch the Web Viewer.
2. Click [**Camera Menu (** **)**] in the left corner of the Live screen.
   The camera setup menu appears.
3. Use the Up/Down (▲/▼) buttons to move to a desired item.
4. Click [**Enter (** **)**]. Then, use the up/down (▲/▼) button to move to a desired item.

5. To access a sub menu item, click [**Enter (** **)**].
6. To move to previous menu or exit the menu setup, click [**Cancel (** **)**] button.

- The camera menu may different depend on camera. For more information, refer to camera's user manual.

To control the PTZ function

You can control the connected camera that supports the PTZ functions if it is connected to the network encoder.

- If the PTZ function is not controllable, check the RS-485 connection status of the camera and network encoder (Page 21)

1. Press the [**PTZ (** **)**] button.
2. When the PTZ button bar appears on the screen, use the direction buttons to adjust the camera angle, zoom factor or focus to your preference.

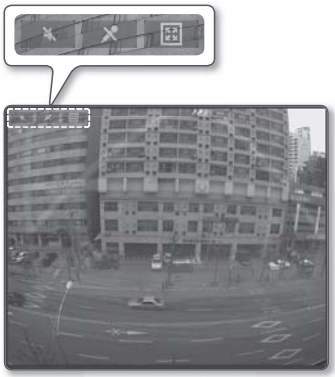
To capture the snapshot

1. Click [ ] on the scene to capture. The Capture dialog should appear.
2. Click [**Save**] button. The screenshot will be saved in the specified path.

- If you are using the IE8 as the default web browser, select "**Tools-Internet Options-Security**" and uncheck "**Use protected mode**".

To toggle the audio sound

1. Click the [**Audio (** **)**] button.
   The corresponding button will be displayed in the Viewer.
2. Click the button to listen to / mute the sound as you wish.
   This button operates as a toggle button.



To toggle the microphone sound

1. Click the [**Mic (** **)**] button.
   The corresponding button will be displayed in the Viewer.

- "**Cannot find audio recording device**" message appears if there is no Microphone.

2. Click the button to start / stop talking.
   This button operates as a toggle button.
   The Silverlight permission dialog appears when you click the microphone button.

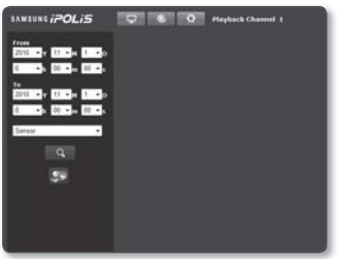
To fit the full screen

1. Click the [**Full Screen (** **)**] button.
   The corresponding button will be displayed in the Viewer.
2. Click the button.
   This will fit the Viewer to the full screen.
3. To exit the full screen mode, press [**Esc**] on the keyboard.

PLAYBACK

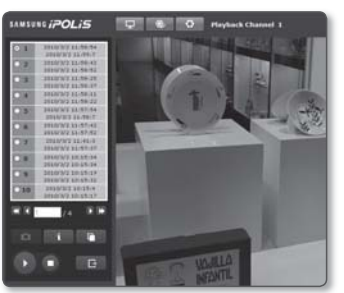
Only SD memory contents in channel 1 can be played. Channels 2 through 4 do not support SD memory recording or playback.

1. Click the [**Playback (**)] button.
2. Specify the start time and end time of your search.
3. Select a search type.
4. Click the [**Search (**)] button.
   The search results will be displayed in the list.



- If more than 500 events are recorded within the search period, your search will be limited up to the date when the 500th event is recorded.
  For instance, if the search period is between 10th and 15th day of the month, and more than 800 events were recorded 10th through 11th, your search will be limited up to 11th day with a total of 800 events, and events after then (from 12th) will not be found.

5. Select a data item to play in the search list.
6. Click the [**Play (**)] button.
7. To stop playing the video, click [**Stop (**)].
   To return to the search screen, click [**Exit (**)].



To check time information of the playing video

1. Click the [**About** ( )] button.
2. Date and time information appears on the screen.

To back up the searched video

1. Click [ ] on the scene to back up.
   Save as window appears.
2. Click [**Save**].
   The screenshot will be backed up to the specified path.

- If you are using the IE8 as the default web browser, select "**Tools-Internet Options-Security**" and uncheck "**Use protected mode**".

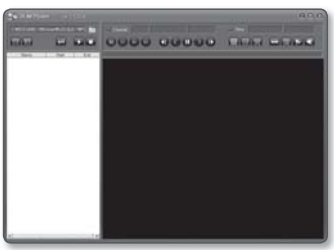
PLAYING THE BACKUP RECORDINGS

You can play backup recordings by using the SlimPlayer.

To download SlimPlayer

1. Click [**SlimPlayer (** **)**].
   You will see a download dialog where you can specify the download path.
2. Specify the path with a proper file name and click [**Save**].

3. Unzip the downloaded file and run the executable.



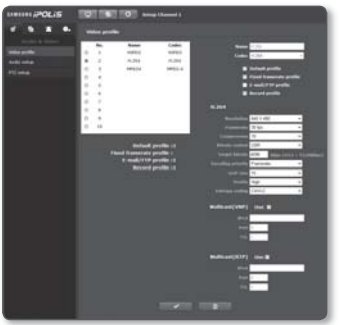
SETUP

You can configure the audio & video, network, event and system settings of the network encoder in the network.

1. In the Live screen, click [**Setup (** **)**].
2. The Setup screen appears.

AUDIO & VIDEO SETUP

Video profile



1. From the Setup menu, select the <**Audio & Video (** **)**> tab.
2. Click <**Video profile**>.
3. Select a <**Video profile**> number.
4. Click the input box of each item and enter / select a desired value.
   - The context menu may differ depending on the selected codec type.

   - Default profile : This is the default video profile.
   - Fixed framerate profile : Fix the frame rate of the selected profile regardless of the settings of other profiles.
   - E-mail/FTP profile : Video profile to be transferred to the specified email or FTP site.
     - Only the MJPEG codec can be set as the E-mail/FTP Profile.
   - Record profile : This is the profile that is applied to video recording.
5. When done, click [**Apply (** **)**].

- Profiles using H.264 codec can be stored in the SD memory only in resolutions of 640x480 or less.
  MPEG-4 videos can not be stored in the SD memory.

To add a video profile

You can add as many codecs as necessary so that a variety of profiles can be applied according to the recording condition.

1. Select a profile number.
2. Provide the name and select a codec.
3. Specify the conditions under which the codec will be applied.
4. Specify the details of the selected codec including resolution and frame rate.
   - Resolution : Set the video size of the MPEG-4, H.264, and MJPEG files.
   - Framerate : Specify the frame rate.
   - Compression : Specify the compression rate of the video.
   - Bitrate control : You can select one from constant bit rate and variable bit rate for compression. Constant bit rate (CBR) varies the video quality and fixes network transfer bit rate, while variable bit rate emphasizes the quality by varying network transfer bit rate.
   - Target bitrate : Specify the bit rate at which you will transfer the video.
   - Encoding priority : You can set the video transfer method to Framerate or Compression.
   - GOP size : Select a GOP size between 1 and 15.
   - Profile : You can select the H.264 profiling method.
   - Entropy coding : Reduce the possible compression loss due to encoding.
   - Multicast (VNP) : Specify the use of the VNP protocol.
     - IPv4 : Enter an IPv4 address with which you can connect to the IPv4 network.
     - Port : Specify the video communication port.
     - TTL : Set the TTL for the VNP packet.
   - Multicast (RTP) : Specify the use of the RTP protocol.
     - IPv4 : Enter an IPv4 address with which you can connect to the IPv4 network.
     - Port : Specify the video communication port.
     - TTL : You can set the TTL for the RTP packet.

What is GOP size?

GOP (Group of Pictures) is a set of video frames for MPEG-4 and H.264 format compression, indicating a collection of frames from the initial I-Frame (key frame) to the next I-Frame. GOP consists of 2 kinds of frames: I-Frame and P-Frame.

I-Frame is the basic frame for the compression, also known as Key Frame, which contains one complete image data. P-Frame contains only the data that has changed from the preceding I-Frame.

You can set between 1 and 15 for the MPEG-4 and H.264 CODEC.

Audio setup

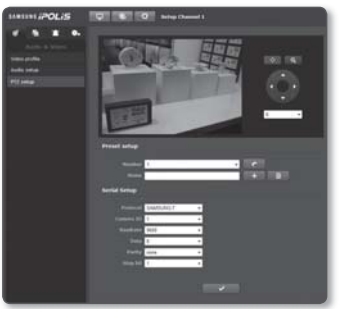
You can configure the I/O settings of the audio source from the network encoder.

- Audio I/O can be performed only in channel 1.

1. From the Setup menu, select the <**Audio & Video (**)> tab.
2. Click <**Audio setup**>.
3. Adjust the audio I/O levels to your preference.
   - Audio-In : Set the audio input value.
   - Audio-Out : Set the audio output value.
4. When done, click [**Apply (**)].

PTZ setup

You can activate the zoom and set the zoom preset as you want.



1. Select the <**Audio & Video (**)> tab from Setup menu.
2. Click the <**PTZ setup**>.
3. Set the preset and serial port.
   - Preset setup : Select a number out of 255 and click Move button to adjust the camera to the angle defined by the selected preset. However, you can specify up to 128 presets for Samsung-E protocols.
     - The connected camera should be configured to allow serial port communication.
   - Serial Setup : You can set the RS-485 communication mode of the connected camera.
     - The camera and device are connected via RS-485 communication ports.
     - The camera will not perform properly if communication related settings of the connected camera are incorrect.
     - SAMSUNG-T/E and Pelco-P/D protocols are supported.
4. When done, click [**Apply (**)].

To add a preset

1. Select the preset number to add.
2. Set the name for the preset.
3. Press the [**Add (** **+** **)**] button.

To delete a preset

1. Select the preset number to delete.
2. Press the [**Delete (** **🗑** **)**] button.

To move the preset

1. Select the preset number to move.
2. Press the [**Move (** **↩** **)**] button.

NETWORK SETUP

Interface

1. From the Setup menu, select the <**Network (** **🌐** **)**> tab.
2. Click <**Interface**>.
3. Set the <**Interface**> and <**IPv6 setup**> as necessary.
   - IP type : Select an IP connection type.
     - Manual : Specify the IP address, Subnet Mask, Gateway, DNS1, and DNS2.
     - DHCP : Specify the DNS1 and DNS2.
     - PPPoE : Specify the DNS1, DNS2, ID and password.
       - If you set it to <**Manual**>, you should specify the IP, Subnet mask, Gateway, DNS 1 & 2 manually.
   - MAC address : Shows the MAC address.
   - IP address : Displays the current IP address.
   - Subnet mask : Displays the <**Subnet Mask**> for the set IP.
   - Gateway : Displays the <**Gateway**> for the set IP.
   - DNS1/DNS2 : Displays the DNS(Domain Name Service) server address.

- IPv6 use : Specify the use of IPv6.
- Mode : If you select <**IPv6 use**>, the mode is enabled.
- IPv6 address : Obtains the IPv6 address to access the IPv6 network.

4. When done, click [**Apply (**)].

- The IP address allocation will be restored to the default DHCP. At the moment, if it fails to detect a DHCP server within 1 minute, the address will be reverted to the previous setting automatically.

Port

1. From the Setup menu, select the <**Network (**)> tab.
2. Click <**Port**>.
3. Type in each item in the Port menu as necessary.
   - Neither the port range between 0 and 1023 nor port 3702 is available.

   - HTTP port : HTTP port used to access the network encoder via the web browser.
     The default is 80(TCP).
   - VNP port : Set a port used to transfer video signals with the Samsung protocols.
   - RTSP port : Used to transfer videos in the RTSP mode; the default is 554.
   - Viewer port : Used to transfer videos to the Web Viewer; the default is 4520.
     - The port range of the Viewer is between 4502 and 4534. If the VNP port is with this effective range, the Viewer port should be specified the same as the VNP port.
   - Silverlight policy port : Silverlight is used to permit to acquire a network connection; the default is 943.
     - You cannot change the Viewer/Silverlight policy server port of a camera.
4. When done, click [**Apply (**)].

DDNS

DDNS is an abbreviation of Dynamic Domain Name Service that converts the IP address of a network encoder into a general Host Name so that the user can easily remember it.

1. From the Setup menu, select the <**Network (** **)**> tab.
2. Click <**DDNS**>.
3. Select <**DDNS**>.
4. Type in the DDNS items according to the selected type.
   - Samsung DDNS : Select this if you use the DDNS server provided by Samsung Techwin.
   - Public DDNS : Select one of provided public DDNS servers when you use a public DDNS server.
     - Host name : Enter the name of the host (i.e., host name of Dyndns) that is registered with the DDNS server.
     - User name : Enter the user name for the DDNS service. (i.e., user ID that is registered with Dyndns)
     - Password : Enter the password for the DDNS service. (i.e., password that is registered with Dyndns)
5. When done, click [**Apply (** **)**].

Registering with DDNS

To register your product with the Samsung DDNS

1. Visit the iPOLiS web site (www.samsungipolis.com) and sign in with a registered account.

2. From the top menu bar, select <**DDNS SERVICE**>-<**MY DDNS**>.

3. Click [**PRODUCT REGISTRATION**].
4. Enter the product domain.
   - You must perform the duplicate check for the domain that you entered.

5. Select a <**CLASSIFICATION**> and specify the <**MODEL NUMBER**>.
6. Specify the product location with a description if necessary.
7. Click [**REGISTRATION**].
   The product will be added to the product list that you can check.

To connect to the Samsung DDNS in network encoder setup

1. From the DDNS setup page, set <**DDNS**> to <**Samsung DDNS**>.
2. Provide the <**Host name**> that you specified when registering the product domain with the DDNS site.
3. Click [**Apply (✓)**].
   When the connection is successfully made, you will see the message of <**(Success)**> on the screen.

Configuring public DDNS in Network encoder Settings

1. Open the DDNS settings page and select <**Public DDNS**> for <**DDNS**>.
2. Enter the corresponding site's host name, user name and password.
3. Click [**Apply (**)] button.
   If the connection properly establishes, <**(Success)**> appears.
4. Once completed with the configuration, click [**Apply (**)] button.

IP filtering

You can create a list of IPs that you want to grant or deny access to them.

1. From the Setup menu, select the <**Network (**)> tab.
2. Click <**IP filtering**>.
3. Select a <**Filtering type**>.
   - Deny : If selecting this, access from those IPs that are added to the filtering will be restricted.
   - Allow : If selecting this, access from only those IPs that are added to the filtering will be accepted.
4. Provide the IP that you want to grant or deny access from.
5. When done, click [**Apply (**)].

SSL

You can select a secure connection system or install the public certificate for this purpose.

1. From the Setup menu, select the <**Network (**)> tab.
2. Click <**SSL**>.
3. Select a secure connection system.
   - To access the network encoder using HTTPS mode, you have to type the IP address for the network encoder in the form of "https://<Network encoder_IP>".

4. Search for the public certificate that you want to install on the network encoder. To install the certificate on the network encoder, you need to provide a certificate name (it can be arbitrarily assigned by the user), certificate file issued from the certification authority and a key file.
   - The <**HTTPS(Secure connection mode using the public certificate)**> item will be active only if there exists a public certificate installed.

5. When done, click [**Apply (** ✓ **)**].

Installing the certificate

1. Enter the certificate name.
2. Select the certificate file to be installed and certificate key, and click [**Install (** Install **)**] button.

Deleting the certificate

1. Click [**Delete (** Delete **)**] button.

EVENT SETUP

FTP / E-mail

You can configure the FTP / E-mail server settings so that you can transfer the images stored in the network encoder to your PC if an event occurs.

1. From the Setup menu, select the <**Event (** ▲ **)**> tab.
2. Click <**FTP / E-mail**>.
3. Select <**FTP configuration**> or <**E-mail configuration**> and enter / select a desired value.
   - FTP configuration
     - Server address : Enter the IP address of the FTP server that you transfer the alarm images to.
     - User ID : Enter the user ID with which you will log in to the FTP server.
     - Password : Enter the user account password for logging into the FTP server.

- Upload directory : Specify the FTP path where you will transfer the alarm images.
- Port : The default port of the FTP server is 21; however, you can use a different port number according to the FTP server settings.
- Passive mode : Select <**On**> if you need to connect in passive mode due to the firewall or the FTP server settings.

• E-mail configuration
- Server address : Enter the IP address of the email server that you use for the email transfer.
  ex) SMTP. hotmail. com
- Use authentication : Select whether to use authorization.
- User ID : Enter the user ID for logging into the email server.
- Password : Enter the user account password for logging into the email server.
- Port : The default port of the email server is 25; however, you can use a different port number according to the email server settings.
- Recipient : Enter the address of the email recipient.
- Sender : Enter the address of the email sender. If the sender address is incorrect, the email from the sender may be classified as SPAM by the email server and thus may not be sent.
- Subject : Enter a subject for your email.
- Body : Provide the text for the massage. Attach the alarm images to the email that you are preparing.

4. When done, click [**Apply (** ✓ **)**].

SD record

You can set the record conditions or the use of recording for the SD memory, check the size of stored data, or format the SD memory itself.

■ Only SD memory contents in channel 1 can be played. Channels 2 through 4 do not support SD memory recording or playback.

1. From the Setup menu, select the <**Event (** 🔔 **)**> tab.

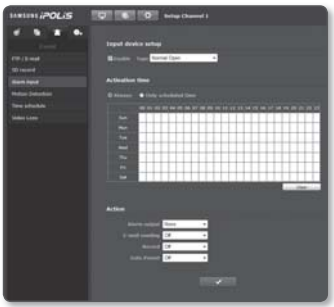
2. Click <**SD record**>.

To make recording on the SD memory

1. Check the <**Total size**> and the <**Free size**>.
2. If the SD memory has a sufficient free space, set <**Record**> to <**On**>. Otherwise, check the stored data and if you find them not important, then click <**Format**> to format the SD memory.
   - If your SD memory card writes slowly, only one frame per second will be stored.
   - For a SD memory card with a large capacity, the formatting will be slowed down accordingly.
   - If the size of data grows with time, only 1 fps can be stored even if you set the record quality to Full Frame.
3. Specify the record conditions.
   - Record 1 fps forcibly : Only one frame per second will be recorded regardless of the existing record profile.
   - Overwrite : If the SD memory is full, this will delete old data and store new data in replacement.
   - Pre-alarm duration : Specify the time point before the occurrence of the alarm; starting from the time point, the images will be transferred. You can specify up to 5 seconds before the occurrence of the alarm.
   - Post-alarm duration : Specify the time point after the occurrence of the alarm; to the specified time point, the images will be transferred. You can specify up to 120 seconds after the occurrence of the alarm.
4. When done, click [**Apply (** **)**].

Alarm input

You can set the alarm input type, activation time, and operation mode.



1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Alarm input**>.
3. Specify an input device.
   - Type
     - Normal Open : It is normally open, but if it is closed, an alarm will be triggered.
     - Normal Close : It is normally closed, but if it is open, an alarm will be triggered.
4. Specify the <**Activation time**>.
   - Always : Always check if an alarm occurs. It activates in operated mode when the alarm occurs.
   - Only scheduled time : Check if an alarm occurs at a specified day of the week for a specified time period. It activates in operated mode when the alarm occurs.
5. Specify an operation that will perform if an alarm occurs.
   - Alarm output : Specify the alarm output time in the alarm input setup.
   - E-mail sending : Specify the use of email transfer in the alarm input setup.
   - Record : Specify the use of recording in the alarm input setup.
   - Goto Preset : Moves to the specified preset location when setting the alarm input.
6. When done, click [**Apply (** **)**].

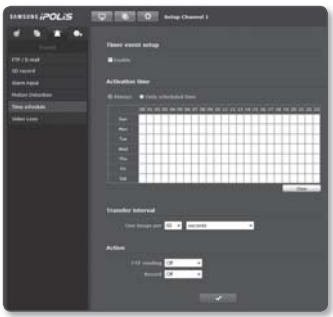
Motion detection

You can set target detection region and motion, as well as the alarm signal output.

1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Motion detection**>.
3. Specify the <**Motion detection**>.
   - Enable : Sets whether to activate motion detection.
   - Sensitivity : Sets the sensitivity level of the motion detection.
     - 1 : LOW, 2 : MEDIUM, 3 : HIGH
4. Set the activation time and condition.
   - Refer to the "**Alarm Input**" for how to set the <**Activation time**> and <**Action**>. (page 55)
5. Select whether to display the mask area. You can set maximum of 4 mask areas. To set mask area, drag the desigred area with mouse.
   Motion detection is activated in the mask area set.
   To delete set area, click [**Delete** (Delete)] button.
6. When done, click [**Apply (** **)**].

Time schedule

You can configure so that an event will occur at a scheduled time regardless of the actual occurrence of the event.



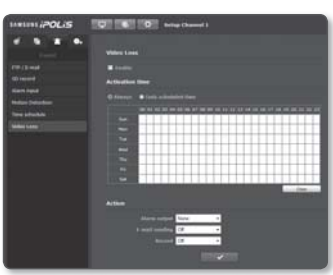
1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Time schedule**>.

To set the timer event

1. Set <**Timer event setup**> to <**Enable**>.
2. Specify the <**Activation time**>.
   - Always : Always activates in operated mode at the set interval.
   - Only scheduled time : Periodically activates in operated mode at a specified time and date.
3. Specify the <**Transfer interval**>.
4. Specify the activation conditions.
   - FTP sending : Specify the use of the FTP transfer if an event occurs.
   - Record : Specify the use of recording if an event occurs.
5. When done, click [**Apply (** **)**].

Video loss

You can set the alarm to be generated on a camera disconnection, which causes a video loss.



1. From the Setup menu, select the <**Event (** **)**> tab.
2. Click <**Video loss**>.
3. Specify the <**Video loss**>.
   - Enable : Sets whether to activate video loss detection.
4. Set the activation time and condition.
   - Refer to the "**Alarm Input**" for how to set the <**Activation time**> and <**Action**>. (page 55)
5. When done, click [**Apply (** **)**].

SYSTEM SETUP

Product information

1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Product information**>.
3. Check the network encoder information, or provide details according to your network environment.
   - Location : Specify the location where the network encoder is installed.
   - Description : Provide detailed information about the network encoder location.
   - Memo : Provide an explanation about the network encoder for better understanding.
   - Language : Select a preferred language for the network encoder menus and the Web Viewer OSD.
4. When done, click [**Apply (** **)**].

▪ Product related information only allows English for input.

Date & Time

1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Date & Time**>.
3. Specify the time and date that will be applied to the network encoder.
   - Current system time : Displays the current time settings of your system.
   - Timezone : Specify the local time zone based on the GMT.
   - Use daylight saving time : If checked, the time will be set one hour before the local time zone for the specified time period. This option will be displayed only in areas where DST is applied.

- System time setup : Specify the time and date that will be applied to your system.
  - Manual : Specify the time manually.
  - Synchronize with NTP server : Sync with the time of the specified server address.
  - Synchronize with PC viewer : Synchronize the time with the connected PC.

4. When done, click [**Apply (** ✓ **)**].

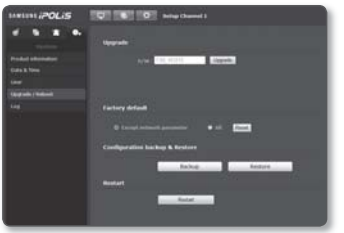
- If you select the <**Synchronize with PC viewer**>, the standard timezone should be set the same as the current timezone in PC.
- The time setting for each of 4 channels should be specified separately. If you want to perform the time sync, select NTP or PC Sync.

User

1. From the Setup menu, select the <**System (** ⚙ **)**> tab.
2. Click <**User**>.
3. Provide the necessary user information.
   - Administrator Password Change : Change the current password for the administrator.
   - Guest setup : If <**Guest access**> is permitted, any guest can access the Web Viewer screen but can view only the Live viewer screen.

   - Current users : You can change the user information and adjust the permission level for a user who is set to <**Enable**>.
     - Video : You can select a video profile in the Liver viewer screen.
     - Audio-In : The audio input option will be activated in the Live Viewer screen.
     - Controls : You can control the network encoder menu, PTZ, audio output and Alarm buttons.
4. When done, click [**Apply (** ✓ **)**].

Upgrade / Reboot



1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Upgrade / Reboot**>.
3. Select a desired item and set it appropriately.
   - Upgrade : Performs upgrading the system.
   - Factory default : Resets the system to the factory default.
     - Except network parameter : Reset the other settings except for the interface/port/DDNS/IP filtering settings.
     - All : Resets all settings including the network encoder settings. (however, the log information will not be reset)

       ■ If you reset the network encoder, the network settings will be adjusted so that DHCP can be enabled. If there is no DHCP server in the network, you must run the IP Installer program to change the basic network settings such as IP address, Subnet mask, Gateway, etc., before you can connect to the network.

   - Configuration backup & Restore : Backs up the current system settings before performing the restoration process. The system is automatically restarts after backup or restoration.
   - Restart : Restarts the system.
4. When done, click [**Restart (** Restart **)**].

To perform the upgrade

1. Click [**Upgrade**].
2. Click [**Browse**] and specify a file to upgrade.
3. Click [**Send**].
4. The "**Upgrade**" dialog appears where the progression will be shown in the bottom.

■ If you forcibly terminate the upgrade process, upgrade will not be completed properly.

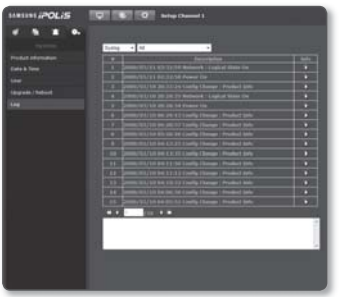
To save the current settings and restore the backup settings

1. Click [**Backup**].
   The Save As dialog should appear.
2. Specify the backup path with a proper file name, and click [**Save**].
   The backup file will be saved to the specified path in the format of "**.bin**".
3. To restore the backup settings, click [**Restore**].

4. Select a backup file and click [**Open**].

Log

You can check the system log or event log.



1. From the Setup menu, select the <**System (** **)**> tab.
2. Click <**Log**>.
3. Select a log type.
   - Syslog : You can check the system logs where any system changes are recorded including the time information.
   - Evtlog : You can check the event logs including the time information.
4. From the right log list, select an item to search for.
   - If you select <**All**> in the top left dropdown list, all logs for the applicable log type will be displayed.
5. If one page can not display all the logs available, use the bottom buttons to move to the previous, next, or the last item.

- If you want to view the details of a log, click [**Info (** **)**] in the right column of the log; the log information will be shown in the bottom pane.
- Each page displays 15 logs with the latest one displayed at the top.
- The event/system log list can contain up to 1000 logs; after that, the existing logs will be deleted from the oldest one each time a new log is created.

SPECIFICATION

Items		Description
Operational	Video In	4 CVBS : 1.0 Vp-p / 75Ω composite, NTSC/PAL Auto Detected
	Video Out	-
	De-interlacing Filter	Built-in
	Event Trigger	Motion Detection, Alarm Input, Video Loss
	Alarm I/O	Input 4ea / Output 4ea (Relay)
	Remote Control Interface	RS-485 Port x4 (Half Duplex)
	RS-485 Protocol	SAMSUNG-T/E, PELCO-P/D
Network	Ethernet	RJ-45 (10/100/1000BASE-T)
	Video Compression Format	H.264, MPEG-4, MJPEG
	Resolution	NTSC : 704x480, 640x480, 352x240, 320x240 PAL : 704x576, 640x480, 352x288, 320x240
	Max. Framerate	NTSC : 30fps (Per channel) / PAL : 25fps (Per channel)
	Video Quality Adjustment	H.264/MPEG-4 : Compression Level, Target Bitrate Level Control MJPEG : Quality Level Control
	Bitrate Control Method	H.264/MPEG-4 : CBR or VBR MJPEG : VBR
	Streaming Capability	Multiple Streaming (Up to 10 Profiles)
	Audio I/O	Line I/O port x1 (only channel 1 supported)
	Audio Compression Format	G.711 μ-law
	Audio Communication	2-Way
	IP	IPv4, IPv6

Items		Description
Network	Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, ONVIF
	Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log
	Streaming Method	Unicast / Multicast
	Max. User Access	10 users at Unicast Mode
	Memory Slot	SD/SDHC Memory Slot (only channel 1 supported)
	ONVIF Conformance	Yes
	Web Viewer	Supported OS : Windows XP / VISTA / 7, MAC OS Supported Browser : Internet Explorer 6.0 or Higher, Firefox, Google Chrome, Apple Safari
	Central Management Software	NET-i viewer
Environmental	Operating Temperature / Humidity	0°C ~ +40°C (+32°F ~ +104°F) / 20% ~ 80% RH
	Ingress Protection	-
Electrical	Input Voltage	DC 12V
	Power Consumption	Max. 15W
Mechanical	Color / Material	Silver / Metal
	Dimensions (WxHxD)	W178 x H34 x D128mm (7.00" x 1.34" x 5.04")
	Weight	562g

TROUBLESHOOTING

PROBLEM	SOLUTION
I can't access the network encoder from a web browser.	• Check whether the <Network> settings of the network encoder are valid and correct. • Check to make sure that all network cables have been connected properly. • If connected using DHCP, verify that the network encoder is able to acquire dynamic IP addresses without any problem. • If connected using a DDNS URL, verify that the MAC address has been properly entered. • If the network encoder is connected to a Broadband Router, verify that port forwarding is properly configured.
Viewer got disconnected during monitoring.	• The existing <Web Viewer> connection can be expired if the network setting or configuration of the network encoder is modified by another user. • Check all network connections. • <Web Viewer> connection may be interrupted by poor network traffic or condition if the network encoder is connected to a PPPoE network.
I cannot connect to the system using a tab browser of Internet Explorer 7.0.	• When you try to connect to the system using a tab browser, the same cookie information is shared, resulting in errors when connected. Therefore, instead of using a tab browser, open a new browser window to connect to the system.
The network encoder connected to the network is not detected in the IP installer program.	• Turn off the firewall settings on your PC and then search the network encoder again.
Images overlap.	• Check whether two or more network encoders are set to a single multicast address instead of different addresses. If a single address is used for multiple network encoders, the images may overlap.
No image appears.	• If the transmission method is set to multicast, check whether there is a router that supports multicast in the LAN the network encoder is connected to.

PROBLEM	SOLUTION
Cannot record into the SD memory card.	• Check if the memory card is defective. • Check if the write protection tab of the memory card is set to “Lock”.
SD memory indicator does not turn on even when the SD memory card is inserted.	• Check if the memory card is defective. • Check if the <Record> is checked in <Setup> → <Event> → <SD Record> menu.
SD memory card is inserted but the network encoder does not operate properly.	• Check if the memory card is inserted in the proper direction. Operation of memory card that is formatted by other devices is not guaranteed with this network encoder unit • Format the memory card again in <Setup> → <Event> → <SD Record> menu.
Cannot format the SD memory card.	• Check if the write protection tab of the memory card is set to “Lock”.

OPEN SOURCE ANNOUNCEMENT

Some software components of this product incorporate source code covered under the BSD license as follows.

Component Name	License	License URL
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